Patent Claims

SUB A1

1. A method for synchronization of a base station (BS) to a mobile station (MS),

- in which the base station transmits a signal sequence K(i) of length n, which can be formed in such a way that [lacuna],
- in which a second signal sequence element K2(k) of length n2 is repeated n1 times and, in the process, has a first signal sequence element K1(j) of length n1 modulated onto it,
- in which n1 is equal to n2, and
- in which this signal sequence K(i) is determined in a mobile station.

2. The method as claimed in claim 1, in which n is equal to 256, n1 is equal to 16, an n2 is equal to 16.

3. The method as claimed in one of the preceding claims, in which the signal sequence K(i) is formed by modulation of the second signal sequence element K2(k) in accordance with the following rule: K(i) = K2(i mod n2) * K1(i div n2).

4. The method as claimed in one of the preceding claims,

- in which the predetermined signal sequence K(i) contained in a received signal sequence E(l) is determined in the mobile station by establishing the correlation sums S of the signal sequence K(i) with corresponding sections of the received signal sequence E(l), with
- a partial correlation sum sequence TS(z) of the signal sequence element K2(k) with corresponding parts of the received signal sequence E(l) being calculated, and
- n1 elements of the partial correlation sum sequence TS(z) being selected in order to calculate a correlation sum S, and being multiplied by the signal sequence element K1(j) in the sense of a scalar product.

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5. The method as claimed in claim 4, in which

n1 in each case n2-th elements of the partial correlation sum sequence TS(z) are selected in order to calculate a correlation sum S.

6. The method as claimed in one of claims 1, 2 or 3,

- in which the predetermined signal sequence K(i) contained in a received signal sequence E(l) is determined in the mobile station by establishing the correlation sums S of the signal sequence K(i) with corresponding sections of the received signal sequence E(l), with
- a partial correlation sum sequence TS(z) of the signal sequence element K1(j) with selected elements of the received signal sequence E(l) being calculated, and
- n2 elements of the partial correlation sum sequence TS(z) being multiplied by the signal sequence element K2(k), in the sense of a scalar product, in order to calculate a correlation sum S.

7. The method as claimed in claim 6, in which n1 in each case n2-th elements of the received signal sequence E(l) are selected in order to calculate a partial correlation sum TS.

8. The method as claimed in one of claims 4 to 7, in which calculated partial correlation sums TS are stored, and are used in order to calculate a further correlation sum S.